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SESSION RESOURCE CLEAN-UP IN A
DISTRIBUTED CLIENT-SERVER ENVIRONMENT**Docket No.:** CHA9-99-015
(IBMC-0105)

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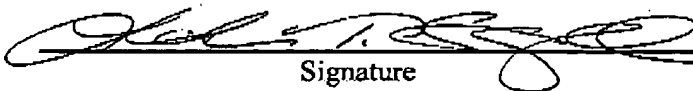
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BRIEF OF APPELLANT

This is an appeal from the Final Rejection dated January 10, 2006, rejecting claims 1-11.

The requisite fee set forth in 37 C.F.R. §1.17 (c) has been submitted on April 27, 2006.

REAL PARTY IN INTEREST

International Business Machines Corporation is the real party in interest.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

09/781,616

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STATUS OF CLAIMS

As filed, this case includes claims 1-11. Claims 1-11 remain pending, stand rejected, and form the basis of this appeal. No claim has been allowed. The rejections of claims 1-11 are being appealed.

STATUS OF AMENDMENTS

No amendment has been filed following the Final Rejection of January 10, 2006.

SUMMARY OF THE CLAIMED SUBJECT MATTER

A first aspect of the present invention provides a system for managing the use of resources (111, 112, 151, 152 of FIG. 1) in a system (100 + 120 + 110 of FIG. 1) where a remote client (100) uses resources (111) at a server (e.g., 110) for a limited duration (page 9, last paragraph – page 10, first paragraph), the system comprising: a stored listing (tables of FIGS. 3A and 3B) of at least one resource (111) being used at the server (110) (column 302 of FIG. 3A) and the remote client (column 304 of FIG. 3A) using that resource (111); a system (file descriptor + callback program, page 10, lines 1-8) which identifies whether the remote client is no longer using resources at the server, including determining a combination of whether the resources have been held by the remote client (100) for a period longer than a first preset threshold (column 308 of FIG. 3A; page 12, lines 7-10; block 226 of FIG. 2B) and whether the resources have been held by the remote client without use of the resources for a period longer than a second preset threshold (column 310 of FIG. 3A, page 12, lines 10-14; block 228 of FIG. 2B); and in response to the system (file descriptor + callback program, page 10, lines 1-8) identifying that the remote client (100) is no longer using resources (111) at the server, a

mechanism (file descriptor + callback program, page 10, lines 1-8) which removes the resources (111) which had been used by the remote client (100) when the remote client (100) was connected to the server (110) (page 12, lines 14-18), whereby the resources being used by the remote client are capable of being used by other clients after the remote client has disconnected from the server (page 12, line 18; page 11, lines 6-10).

A second aspect of the present invention provides a method of controlling the use of resources (111) at a server (110) by clients (100) which are coupled to the server (e.g., 110) to use the resources (111), the steps of the method comprising: identifying a client which is using the server and the resources of the server which are associated with the client (222 + 224 of FIG. 2B; page 11, lines 21-23); detecting when the client is no longer using the resources of the server (226 + 228 of FIG. 2B; page 12, lines 7-14); and in response to the detecting that the client is no longer using resources of the server, automatically releasing the resources at the server without further client communication which had been associated with the client (230 of FIG. 2B; page 12, lines 14-18); wherein the detecting step includes determining a combination of whether the resources have been held by the remote client for a period longer than a first preset threshold (226 of FIG. 2B; page 12, lines 9-10) and whether the resources have been held by the client without use of the resources for a period longer than a second preset threshold (228 of FIG. 2B; page 12, lines 10-14).

A third aspect of the present invention provides a method of controlling use of a resource (111) at a server (e.g., 110) by a client (100), the steps of the method comprising: when a client requests use of a resource at a server (204 of FIG. 2A; page 10, lines 14-23), entering the identity of the client, the resource and the time into a listing of resources used (tables of FIGS. 3A and 3B; page 11, lines 1-5); when a client subsequently uses the resource, entering the time of last

use of the resource into the resources used listing (column 310 of FIG. 3A); permitting a client to control a resource while the client is connected and using the resource (210 of FIG. 2A; page 11, lines 7-10); and determining whether a client has been using a resource by determining whether the resource has been held by the client for a period longer than a preset threshold (226 of FIG. 2B; page 12, lines 9-10) and comparing a period of last use with a present amount of allowable time (228 of FIG. 2B; page 12, lines 10-14) and, if not, automatically releasing the resource without further client communication (230 of FIG. 2B; page 12, lines 14-18).

A fourth aspect of the present invention provides a computer program product comprising a computer useable medium having computer readable program code embodied therein for controlling the use of a resource (page 14, lines 5-15), the program code comprising: a module which stores a list of the resources which are being used by an identified client at a server (300 of FIG. 3A;); a module which determines when the identified client is no longer using resources associated with the server (file descriptor + callback program; page 10, lines 7-14 and page 12, lines 7-14), including determining a combination of whether the resources have been held by the remote client for a period longer than a first preset threshold (226 of FIG. 2B; page 12, lines 7-10) and whether the resources have been held by the identified client without use of the resources for a period longer than a second preset threshold (228 of FIG. 2B; page 12, lines 10-14); and a module which determines the resources used by the identified client and releases those resources (230 of FIG. 2B) in response to determining that the identified client is no longer using resources associated with the server (page 12, lines 14-18).

GRPOUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1-11 are anticipated under 35 USC 102(e) by Sayan et al. (USPN 6,447,569), hereinafter "Sayan."

ARGUMENTS

1. Claims 1, 5 and 9-10 Are Not Anticipated By Sayan

Appellant submits that the Sayan does not disclose each and every claimed feature. With regard to claims 1, 5 and 9-10, the claimed invention includes, *inter alia*, "determining a combination of whether the resources have been held by the remote client for a period longer than a first preset threshold and whether the resources have been held by the remote client without use of the resources for a period longer than a second preset threshold[.]" In the claimed invention, "in response to the system identifying that the remote client is no longer using resources at the server, a mechanism ... removes the resources[.]" (Claim 1). The Office alleges that Sayan discloses this feature, citing col. 8, line 64 – col. 9, line 5 and col. 12, line 35 – col. 14, line 20 of Sayan. (Office Action at page 3). In the cited portion, Sayan discloses a maximum idle time threshold (*see*, e.g., col. 12, lines 62-64) and a CPU limit (*see* col. 8, line 64-67). Although not specifically expressed, it appears from the context of the Office Action and the Advisory Action of 4/7/06 (Advisory Action) that the Office uses the maximum idle time threshold of Sayan to disclose the second threshold of the claimed invention, and uses the CPU limit to disclose the first threshold of the claimed invention. (*See* Office Action at page 3, last paragraph; *see* also Advisory Action at page 2, 3rd paragraph.) However, even if, for sake of argumentation, Sayan disclosed the second threshold of the claimed invention, Sayan still does not disclose "determining ... whether the resources have been held by the remote client for a

period longer than a first preset threshold[.]" so that "a mechanism ... removes the resources[.]" (Claim 1).

In Sayan, "[t]he CPU limit defines the maximum number of CPU cycles in seconds allowed to process a transaction." (Col. 8, lines 3-4). Sayan requires that "[t]he CPU parameter should be set greater than the maximum time and preferably to at least twice the maximum time used for the longest of all transactions serviceable by the pool agent." (Col. 8, lines 64-67). However, the CPU limit in Sayan does not define a threshold of a period that a client application holds a pool agent (resources) because during a communication of Sayan, a client application may request and a pool agent may perform more than one transaction. (See, e.g., col. 12, lines 53-54, "[a]dditional requests maybe received by the pool agent from the client.") For example, if each of all the transactions requested by a client application is processed by a pool agent within the CPU limit, a communication between the pool agent and the client application can exist for a period longer than the CPU limit, provided that an idle time of the pool agent does not exceed the maximum (the assumed second threshold). That is, the CPU limit of Sayan is not a threshold for a client application to hold a pool agent (resources). In other words, Sayan will not remove the resources even if a client application holds and uses a pool agent for multiple transactions for a period longer than the CPU limit. In view of the foregoing, Sayan does not disclose, *inter alia*, determining whether the resources have been held by the remote client for a period longer than a first preset threshold to remove the resources. Accordingly, Appellant respectfully requests reversal of the rejection.

The dependent claims are believed allowable for the same reason as stated above, as well as for their own additional features.

In view of the foregoing, Appellant submits that Sayan does not anticipate the claimed invention, and the Final Rejection should be reversed

Respectfully submitted,



Dated: 8/17/06

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CLAIMS APPENDIX

1. A system for managing the use of resources in a system where a remote client uses resources at a server for a limited duration, the system comprising:

a stored listing of at least one resource being used at the server and the remote client using that resource;

a system which identifies whether the remote client is no longer using resources at the server, including determining a combination of whether the resources have been held by the remote client for a period longer than a first preset threshold and whether the resources have been held by the remote client without use of the resources for a period longer than a second preset threshold; and

in response to the system identifying that the remote client is no longer using resources at the server, a mechanism which removes the resources which had been used by the remote client when the remote client was connected to the server, whereby the resources being used by the remote client are capable of being used by other clients after the remote client has disconnected from the server.

2. A system for managing the use of resources in a system including the elements of Claim 1 wherein the system which identifies that the remote client is no longer using a resource at the server includes a mechanism for determining that the remote client is no longer connected to the server through a data transmission network.

3. A system for managing the use of resources in a system including the elements of Claim

1 wherein the system which identifies that the remote client is no longer using a resource at the server includes a system for determining that the program which uses the resource has terminated.

4. A system for managing the use of a resource in a system including the elements of Claim 1 wherein the server maintains a listing of each of the clients using a resource associated with the server and the resources which are used by the respective client.

5. A method of controlling the use of resources at a server by clients which are coupled to the server to use the resources, the steps of the method comprising:

identifying a client which is using the server and the resources of the server which are associated with the client;

detecting when the client is no longer using the resources of the server; and

in response to the detecting that the client is no longer using resources of the server, automatically releasing the resources at the server without further client communication which had been associated with the client;

wherein the detecting step includes determining a combination of whether the resources have been held by the remote client for a period longer than a first preset threshold and whether the resources have been held by the client without use of the resources for a period longer than a second preset threshold.

6. The method of controlling the use of resources at a server by a client including the steps of Claim 5 and further including the step of detecting that the client has become disconnected

from the server.

7. The method of controlling the use of resources at a server by a client including the steps of Claim 5 and further including the step of maintaining a list of the resources being used by each client using the server.

8. The method of controlling the use of resources at a server by a client including the steps of Claim 5 wherein the method further includes maintaining a list of resources being used by a client, maintaining a record of the time when the use of the resource started and the time when the resource was last used and using the record of at least one of the times to determine whether to release the resource.

9. A method of controlling use of a resource at a server by a client, the steps of the method comprising:

when a client requests use of a resource at a server, entering the identity of the client, the resource and the time into a listing of resources used;

when a client subsequently uses the resource, entering the time of last use of the resource into the resources used listing;

permitting a client to control a resource while the client is connected and using the resource; and

determining whether a client has been using a resource by determining whether the resource has been held by the client for a period longer than a preset threshold and comparing a period of last use with a present amount of allowable time and, if not, automatically releasing the

resource without further client communication.

10. A computer program product comprising a computer useable medium having computer readable program code embodied therein for controlling the use of a resource, the program code comprising:

a module which stores a list of the resources which are being used by an identified client at a server;

a module which determines when the identified client is no longer using resources associated with the server, including determining a combination of whether the resources have been held by the remote client for a period longer than a first preset threshold and whether the resources have been held by the identified client without use of the resources for a period longer than a second preset threshold; and

a module which determines the resources used by the identified client and releases those resources in response to determining that the identified client is no longer using resources associated with the server.

11. The computer program product as claimed in Claim 10 wherein the module for determining that the identified client is no longer using resources includes a mechanism for determining that the client is no longer connected to the server.

EVIDENCE APPENDIX

There are no evidences submitted.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings.

CERTIFICATE OF SERVICES

There is no other party to this appeal proceeding.

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